



# FOOD BORNE ILLNESS

## Be On the Lookout for FBI

*Is “looking clean” enough to prevent foodborne illness?*

### **FBI Statistics:**

- 76 million cases of FBI each year in the U.S.
- 325,000 hospitalizations a year in the U.S. caused by FBI
- 5200 deaths a year in the U.S. caused by FBI
- \$7.7 - \$23 billion annual cost
- \$77,000 average cost per incident

People are the #1  
cause of  
foodborne illness  
in the U.S.!

### **FBI Agents:**

- Biological Hazards – bacteria, viruses, parasites, yeast, molds
- Physical Hazards – glass, toothpicks, fingernails, jewelry
- Chemical Hazards – cleaners & sanitizers, pesticides, medications
- Naturally Occurring Chemical Hazards – fish toxins, plant toxins

### **FBI Sources:**

- People – contaminated hands, illness
- Foods – contaminated food, time and temperature abuse

### **FBI Symptoms:**

- Common Symptoms (onset 12-36 hours) – diarrhea, cramping, nausea, vomiting, low-grade fever, body aches
- Rare Symptoms – system shutdown, coma, death

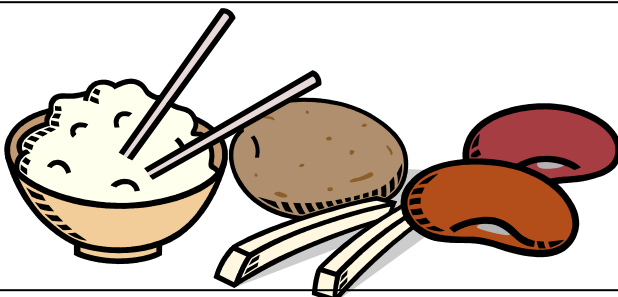
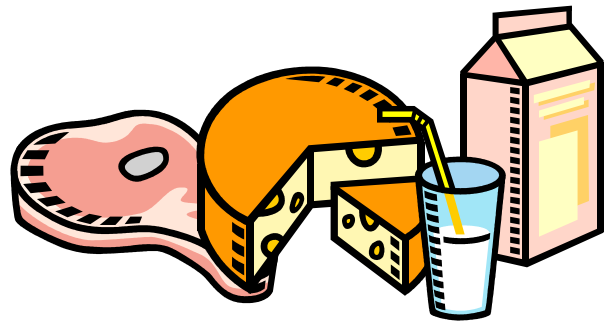
# POTENTIALLY HAZARDOUS FOODS

*What are potentially hazardous foods (PHF)?*

PHF is any food or food ingredient (natural or synthetic) capable of supporting rapid and progressive growth of microorganisms, particularly bacteria.

## MEAT & DAIRY

Cooked or raw animal products,  
such as beef, pork, poultry &  
seafood, dairy, such as milk, cheese



## VEGETABLES & STARCHES

Cooked vegetables and

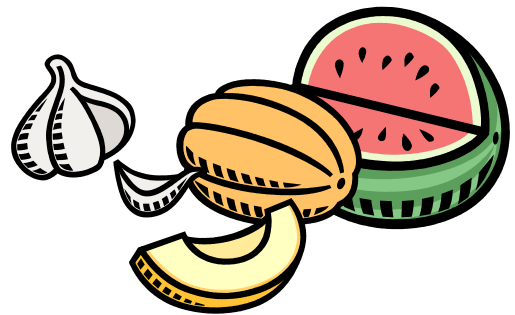


starches, such as cooked rice,  
pasta

beans, potatoes &

## SPROUTS & MELONS

Tofu, raw seed sprouts, cut melons,  
garlic in oil, eggs, etc.



# OBSERVE GOOD HYGIENIC PRACTICES

- Wash hands only in the hand sink – not in the dishwashing, food preparation or mop sinks
- Drinks in food areas must have a lid and a straw



- No use of tobacco in any form in food areas

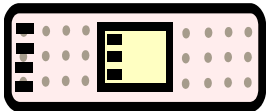


**KCMO HEALTH DEPARTMENT  
ENVIRONMENTAL PUBLIC HEALTH PROGRAM**  
2400 TROOST AVE, SUITE 3000  
KANSAS CITY, MO 64108  
Phone: (816) 513-6315 Fax: (816) 513-6290



**Public Health**

- Do not use a common cloth towel or an apron for drying hands
- No bare hand contact with ready to eat foods or ice!
- Wear nails short, clean and unpolished
- No jewelry – restrict rings to plain bands
- Cover open cuts and burns with bandages, finger cots, or single-use gloves





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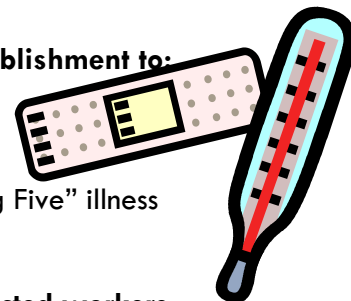


**Public Health**

# FOOD EMPLOYEE HEALTH GUIDELINES

**The Kansas City Food Code requires the Person-In-Charge (PIC) of a food Establishment to:**

1. Recognize diseases that are transmitted by foods
2. Inform employees of reporting requirements
3. Restrict or exclude infected workers
4. Notify the Health Department when an employee is diagnosed with a “Big Five” illness



## **Recognize diseases transmitted by foods**

There are nearly 300 organisms associated with foodborne illness. Section 2-201.11 of the Kansas City Food Code identifies some of the more common symptoms of illnesses that can be easily spread by foods, including:

- Diarrhea
- Vomiting
- Jaundice
- Discharges from the eyes, nose & mouth
- Fever
- Infected wounds or boils
- Sore throat with fever

## **The “Big Five” illnesses**

The Food Code singles out five foodborne illnesses are both highly infectious (it may take only a few organisms to infect a person) and highly virulent (a person can become severely ill once infected). The “Big Five” are:

- Salmonella typhi
- Shigella spp
- E coli O157:H
- Norovirus
- Hepatitis A virus

## **Inform employees of reporting requirements**

Employers must inform employees of the employees’ legal responsibility to report:

- Present or past illnesses with the “Big Five”; or
- When they have symptoms of other illnesses that can be readily spread via food

Sample forms that can be used to inform employees of these requirements are available from the Health Department. Food employees are then responsible for informing their employers of these health conditions. Managers should inquire about the health of current employees and new employees (after a conditional offer of employment).

## **Restrict or exclude infected workers**

The Food Code requires the Person-In-Charge to prevent food contamination by employees with certain medical conditions through:

- Restriction of work; or
- Exclusion from work

Restriction means preventing an employee from working with exposed food, clean equipment, utensils and lines, and unwrapped single service and single use articles.

Exclusion means the employee is not allowed in any part of the food establishment.

Detailed guidance on “Exclusion & Restrictions” is provided in section 2-201.12 of the Food Code. Copies of the Food Code may be purchased from the Health Department for \$15.00.

The Americans with Disabilities Act of 1990 (ADA) requires employers to accommodate affected individuals by identifying, when reasonably possible, alternative work responsibilities that fulfill the intent of restriction or exclusion. The ADA does not require an employer to keep an employee on-site if there is a risk of transmitting illness to other employees or the public.

Additional information about the ADA is available by calling the U.S. Equal Employment Opportunity Commission toll free at 800-669-4000.

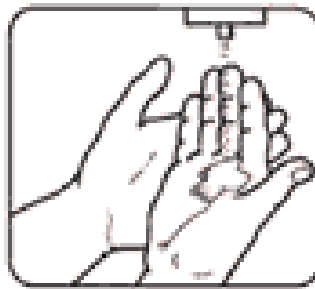
*NOTE: This document is for educational purposes only and should not be considered a substitute for the Kansas City Food Code.*

# HAND WASHING

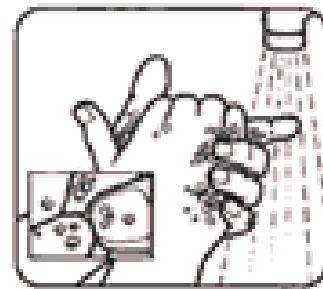
## Stop Disease! Wash Your Hands!



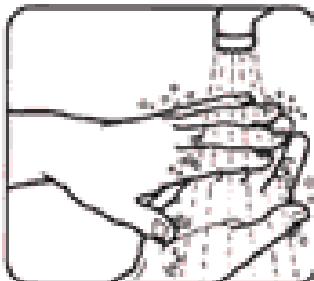
1 Wet hands with  
warm water



2 Apply soap



3 Wash vigorously  
at least 20 seconds



4 Rinse well



5 Dry with paper  
towel



6 Turn off faucet  
with paper towel

**Wash your hands BEFORE starting work and putting  
on gloves!**

**AND**

**Wash your hands AFTER:**

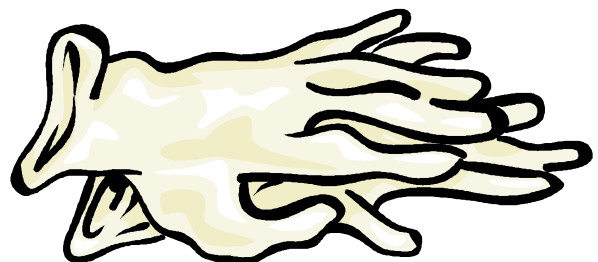
- Using the restroom
- Sneezing or coughing
- Handling raw food
- Taking a break
- Eating or smoking
- Touching your face or hair
- Mopping the floor
- Taking out the garbage
- Touching anything else that may contaminate your hands



# THE RIGHT WAY TO USE GLOVES!

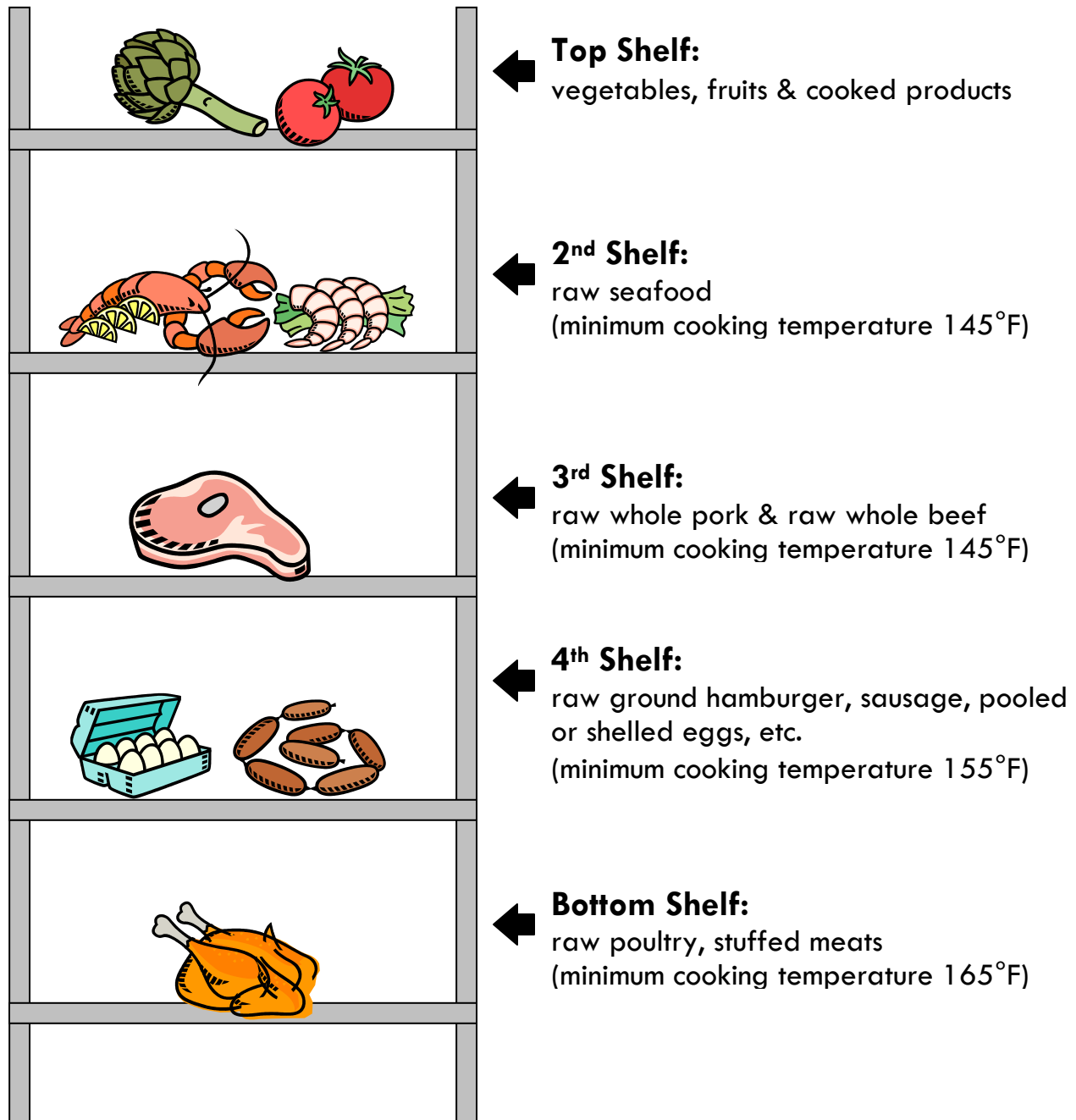
- Glove usage **DOES NOT** replace the need for good hand washing practices
- Always wash your hands before putting on gloves
- Put gloves on only when you are ready to handle ready-to-eat foods
- Use gloves for designated food tasks only
- **DO NOT** use gloves for handling money, garbage, cleaning, etc.
- Use gloves for **ONE TASK** and one task only
- Discard gloves immediately after being soiled, damaged or after a task

*Are you  
changing your*



# POTENTIALLY HAZARDOUS FOODS

## Proper Storage According to Cooking Temperatures







## Cooking Temperatures

*15 seconds at the proper temperature kills bacteria!*

Reheated foods, mixtures, stuffing, stuffed items,  
poultry, wild game



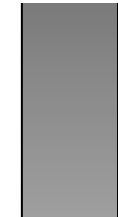
165°F

Ground beef, other ground meats excluding  
poultry, flaked/chopped meats and fish, eggs  
cooked for holding, injected meats



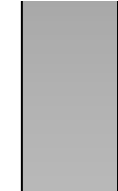
155°F

Raw, whole animal products such as beef, pork,  
seafood, eggs for immediate consumption

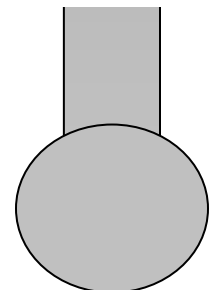


145°F

Holding hot products  
(bacteria grows rapidly between 41°F and 135°F)



135°F





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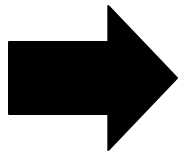


Public Health

Keep Food  
**HOT**

**135 °F**  
**57 °C**

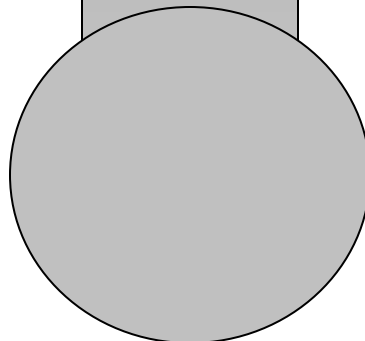
**FOOD  
SPOILS**



**D  
A  
N  
G  
E  
R**

Keep Food  
**COLD**

**41 °F**  
**5 °C**





# TEMPERATURES AND THERMOMETERS

## Use and Care of Temperature Taking Devices

### CLEANING:

- Use a clean and sanitized thermometer
- Single use alcohol wipes or other approved sanitizer may be used

### TAKING TEMPERATURES:

- Use a metal stem thermometer, digital thermometer or thermocouple unit
- Place the probe in the center or thickest part of the food, between the fold of flexible packaged food or between packages of food; do not puncture the packaging
- Allow time for the thermometer to register and record the temperature



### CALIBRATING METAL STEM THERMOMETERS:

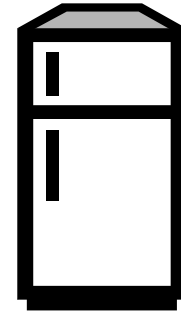
- Calibrate thermometers frequently
- Insert sensing area into a cup of ice and water
- Allow indicator to stabilize
- Adjust calibration nut to 32°F while in ice water
- Digital thermometers and thermocouple units can also be checked for accuracy using this method



# THAW FOODS SAFELY

## 4 methods to safely thaw foods:

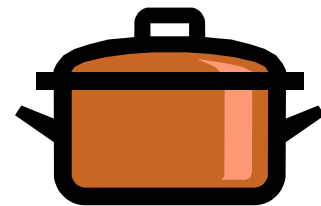
1. In a cooler/refrigerator at 41°F or less



2. In cold (70°F) running water for two hours or less



3. During the cooking process; continuous cooking with no interruption



4. Using a microwave as the first step in a continuous cooking process



***NEVER thaw foods at room temperature. The thawed portions of the outside can support bacterial growth and result in an unsafe product!***

# COOLING

## Improper Cooling is the Major Cause of Foodborne Illness!

### Key Elements:

- Hot foods must be cooled from 135°F to 70°F within 2 hours, and from 70°F to 41°F within additional 4 hours
- Reduce the volume/mass of food
- Stirring hot foods increase the cooling rate
- **DO NOT** cool foods at room temperature after it reaches 135°F
- **CHECK the TEMPERATURE** periodically

### Methods:

#### Shallow Metal Pans



- Leave pans partially uncovered
- Refrigerate immediately
- DO NOT stack hot pans – allow for air flow
- Stir frequently during cooling

#### Ice Bath



- Divide product into 1 gallon containers
- Immerse product pan in sink or larger pan of ice and water to depth of product
- Stir often/agitate
- Refrigerate immediately

#### Freezer Stick



- Pour hot liquid into a large pot; stir with a freezer stick every 15 minutes
- Additional freezer sticks may be needed to reach 70°F within 2 hours.
- Leave freezer stick in pot and place in walk-in cooler

#### Small Portions



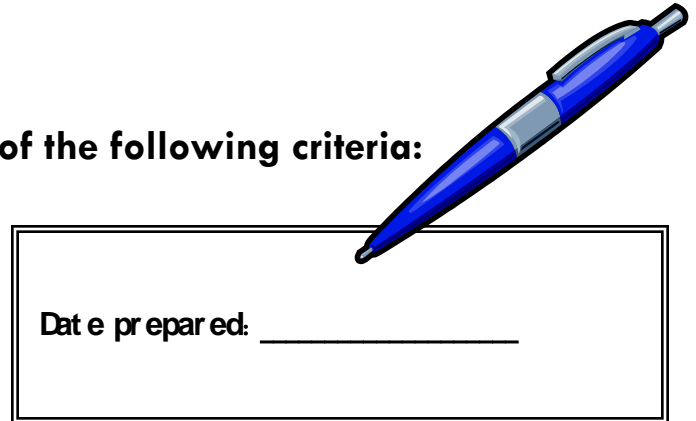
- Divide food into smaller pans
- Cut or slice portions of meat



# DATE MARKING

**Food must be date marked if it meets all of the following criteria:**

- Prepared on-site and refrigerated; and
- Potentially hazardous; and
- Ready-to-eat; and
- Held for more than 24 hours

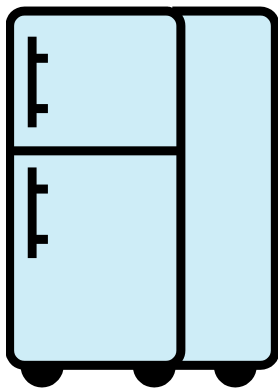


**Mark with the date to be consumed by or discarded**

- Food can be kept for 7 days if held at 41°F or less; or
- 4 days if held between 41°F and 45°F

*NOTE: The day the food is prepared or the day commercially prepared food is opened counts as "day 1"*

**If potentially hazardous, ready-to-eat food is frozen:**



- Mark the length of time refrigerated before being frozen when food is placed in the freezer. When food is removed from the freezer, mark with a "consume by" date that is 7 (or 4) days minus the length of time the food was refrigerated before being frozen



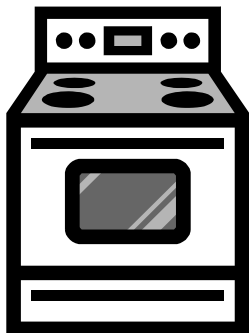
# REHEAT FOODS QUICKLY & SAFELY

## Key Elements:

- Reheat previously cooked foods to an internal temperature of 165°F or above
- Rapid reheating is required (2 hours or less)
- Stir foods frequently to distribute the heat
- Measure the internal temperature with a thermometer
- After reaching 165°F, the food must be hot held at 135°F or above



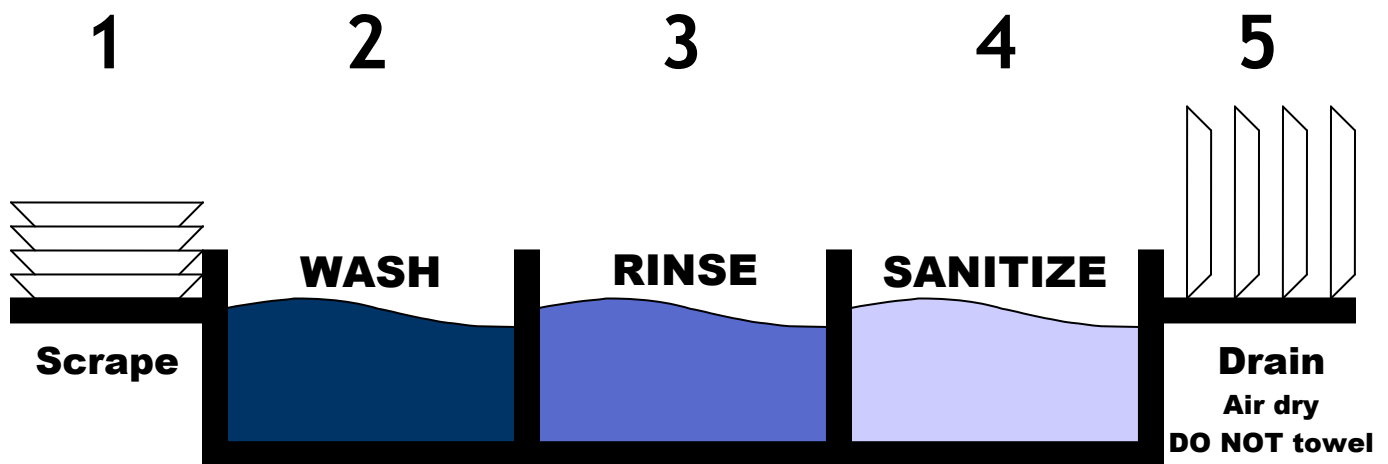
## Reheating Methods:



- Direct heat (stove top) is best; you may also use steam cookers, ovens and microwaves if reheating achieves 165°F within 2 hours
- Reheating in steam tables and crock pots is unsafe and prohibited



# MANUAL DISHWASHING PROCEDURE



## Step 1 – WASH

- Clean and sanitize sinks and drain boards
- Pre-soak/pre-rinse all eating utensils and equipment
- Use hot soapy water with a good detergent (minimum 110°F)

## Step 2 – RINSE

- Use clean water to remove soap/detergent

## Step 3 – SANITIZE

- Use chemical sanitizer water (minimum 75°F)
  - Chlorine – 50ppm/ 7 seconds
  - Quaternary – 200ppm/ 30 seconds
  - Iodine – 12.5ppm/ 30 seconds
- Or use hot water (minimum 171°F) for at least 30 seconds

**NOTE:** Test kits are required to measure chemical sanitizer levels. Refer section 4-501.114 of the Kansas City Food Code for additional information regarding pH, temperature concentration and hardness for manual dishwashing with chemical sanitizing.





# SAFE AND CLEAN FACILITY

## Insect and Rodent Control

*Insects and rodents carry diseases and can contaminate food and food-contact surfaces*

**Utilizes these measures to minimize their presence:**

- protect outer openings by keeping outer doors closed, repair screens, maintain tight-fitting doors and openings, use air curtains
- eliminate harborage conditions
- exterminate regularly

## Toxic Materials

**These items can be poisonous or toxic if ingested:**

- detergents
- sanitizers
- polishes & cleaners
- insecticides
- rodenticides
- first aid supplies & personal medication



**Storage, labeling & use:**

- store separately from foods and food-contact surfaces
- never store above foods or food surfaces
- label all toxins
- use only approved chemicals in food areas